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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Daniel R. McClure
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.
Suite 1750
100 Galleria Parkway N.W.
Atlanta, GA 30339

EXAMINER

CHAN, ALEX H

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,483

Applicant(s)

HWANG, YU-WEN

Examiner

Alex H Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 and 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Claims 1, 2 and 7 (corresponding to Fig. 8) in Paper No. 5 is acknowledged. The traversal is on the ground(s) that Fig. 8, 10A and 11 all have a basic common structure and they should be considered as a single patentable species, and Fig. 13 should also be considered because the uni-directional optical function module can be an uni-directional wavelength optical cross connector. This is not found persuasive. The requirement is still deemed proper and is therefore made FINAL because of the following reasons:

Applicant argues that a difference among Fig. 8, 10A and 11 relates to the uni-direction optical function module and that they all have a basic common structure. Examiner respectfully disagrees. As noted in Fig. 8, 10A and 11, applicant claims an optical function module (130) comprising at least one uni-directional optical function module (140 of Fig. 8) and an optical amplifier module (142 of Fig. 8) whereas in Fig. 10A, applicant claims at least one optical add/drop module (154 of Fig. 10A) and at least one optical isolator (156 of Fig. 10A). It is clear to the Examiner that Fig. 8 and Fig. 10A are patentably distinct species in that both optical function modules comprise different optical elements and specifically the optical amplifier module in Fig. 8 and the optical add-drop mux and isolator in Fig. 10A. It is true that all three figures relate to the uni-directional optical function module, however, they all carry different structures which render them to operate as different species. Indeed, their functionalities are also very distinctive from one another. For example, an uni-directional optical function module having an optical amplifying module (142 of Fig. 8) can be used for amplifying optical

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signals and wavelengths traveling across uni-directionally and does neither add, drop, circulate any optical signals nor compensate any dispersion. An uni-directional optical function module having an optical add/drop mux (154 of Fig. 10A) and isolator (156 of Fig. 10A) can be used for adding and dropping desired optical signals to be outputted in an isolated manner and it does not necessarily amplify or circulate these added or dropped signals. An uni-directional optical function module having optical circulator (164 of Fig. 11) and optical fiber grating (166 of Fig. 11) can be used for compensating desired optical signals and circulating them to a variety of optical ports (1, 2 or 3 of Fig. 11) and it does not necessarily amplify or add and drop signals as they travel across the uni-directional optical function module.

Applicant further argues that claim 3 recites that the uni-directional optical function module can be a chromatic dispersion compensator which corresponds to Fig. 11. It is clear to the Examiner that the function of compensating dispersion cannot be applied to species of Fig. 8 and 10A since they do not comprise the same optical elements, namely fiber grating and optical circulator as claimed in species Fig. 11 and therefore, Fig. 11 is patentably distinct from Fig. 8 and Fig. 10A.

Moreover, applicant argues that Fig. 13 shows that the uni-directional optical function module (230) can be an uni-directional wavelength optical cross connector (244) and therefore the basic structure in Fig. 13 also comprises at least one wavelength managing module (240) and at least uni-directional optical function module. The Examiner finds it not convincing. Particularly, Fig. 13 discloses an optical system for automatically switching optical signals, mainly via uni-directional wavelength optical

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cross connector (244). Fig. 8, 10A and 11 all lack the function of switching optical signals, which render Fig. 13 to be patentably distinct from species Fig. 8, 10A and 11.

Specification

1. The disclosure is objected to because of the following informalities:

Reference number "130" is both referred to as "optical function module" (page 11, line 2) and "wavelength managing module" (page 11, line 8).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by over U.S.

Patent No. 5,801,858 to Roberts et al (hereinafter referred to as Roberts).

Regarding claim 1, Roberts discloses an optical function module (10 of Fig. 1B or Fig. 4) for bi-directional wavelength-division multiplexer (WDM) optical communication system (Col. 3, lines 58-59 & Col. 6, lines 55-56), comprising: at least one wavelength managing module ("C" of Fig. 1B or 41 of Fig. 4) having a plurality of ports (11-14 of Fig. 1B), the wavelength managing module optically coupling between a first optical transceiver ("A" of Fig. 1) and a second optical transceiver ("B" of Fig. 1), wherein the first and the second optical transceivers provides a first (Red band, Fig. 3 and Col. 6, line 55) and a second optical channels (Blue band, Fig. 3) respectively for transmitting a plurality of optical signals with different wavelengths (Col. 3, lines 43-47

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and Col. 4, lines 32-51); and at least one uni-directional optical function module (10 of Fig. 1B or 27 of Fig. 3) having a high isolation function (e.g. via 33, 35 or 37 of Fig. 3), and coupling to the ports of the wavelength managing module (e.g. via ports 11-14 of Fig. 1B).

Regarding claim 2, Roberts discloses the uni-directional optical function module having a high isolation function is an optical amplifier module (15 of Fig. 1B or 27 and 31 of Fig. 3 or 42 and 47 of Fig. 4 and Col. 3, lines 58-61 & Col. 6, lines 63-66), and couples to the ports of the wavelength managing module (e.g. via 11-14 of Fig. 1B or 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of U.S. Patent No. 5,809,190 to Chen.

Regarding claim 7, Roberts fails to disclose that the wavelength managing module is a multi-window wavelength-division multiplexer (MWDM). Chen discloses a 4-channel dense wavelength-division multiplexer (wavelength managing module) (Fig. 3a) comprising a plurality of FBT multi-window wavelength division multiplexers (MWDM) (311, 321 and 322 of Fig. 3a). One of the ordinary skill in the art would have been motivated to incorporate a multi-window wave-division multiplexer in a to provide a low loss, inexpensive and reliable narrow band DWDM for high speed, multi-wavelength transmission capable of multiplexing or demultiplexing two light signals

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known as two-channel WDM (Col. 2, lines 10-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate either a MWDM, as suggested by the teachings of Chen, in the modified optical transmission system of Roberts to construct a wavelength managing module that is also a MWDM that makes a low loss, inexpensive DWDM capable of providing a reliable multi-wavelength transmission in a fiber optic transmission system.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Burton et al is cited to show another WDM device having 4 ports for transmitting WDM signals (Fig. 1, 2, and 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex H Chan whose telephone number is (703) 305-0340. The examiner can normally be reached on Monday to Friday (8am to 6pm EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Alex Chan
Patent Examiner
October 29, 2003



JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600